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CHILD-STUDIES.*

BY DR. ADOLPH MIETHE.

PHOTOGRAPHIC child-studies, although remunerative for the photographer, are always more or less trying and difficult for the operator.

The greatest difficulties in child-studies are brought about, firstly, by the lack of comprehension in the subject that absolute immobility is requisite, consequently no calculation can be made as to how long the little subject will remain as posed; secondly the lack of expression in the conventional juvenile features; and lastly, in the peculiarity of the infatuated parents who invariably picture their children from their own enamoured standpoint, and consequently expect and demand results in the forthcoming portrait which are not warranted by the original.

Then again the individual treatment of the children presents special difficulties to the operator, as they are either excessively shy or timid, and object to being handled and posed by an entire stranger, or they are inclined to be rebellious, and oppose the operator with either a passive or active resistance.

Secondly, the deportment of the operator towards the children

* Chapter 4, section 7, of Dr. A. Miethe's Lehrbuch der Pracktischen Photographie. Translation by Julius F. Sachse.

demands the greatest caution and good judgment, as the least adverse word or action will draw upon him the ill will of the accompanying parent or friend.

Regarding the general management of children, I believe that the operator frequently fails by affecting too great an intimacy with the children on a short acquaintance. Most children have an instinctive aversion to persons who attempt to force an acquaintance upon them. It is therefore advisable for the operator to apply himself more to the accompanying father or mother than to the young child, thereby convincing the latter of the harmlessness of the operator.

Further, so far as the child is concerned, all things are to be avoided that are prone to raise any feeling of fear or embarrassment. It is therefore important, whenever a child-study is contemplated, to remove from the studio or put out of sight all such objects which may seem strange or excite any fear in the child.

The greatest error usually made during child-studies, upon the part of the accompanying parents or friends, is that the children are wrought up into a condition of nervous excitement detrimental to a successful sitting. This is also occasionally the fault of the operator, who flatters himself that he can at once gain the confidence of any child by showing it the greatest quantity of toys in the shortest possible time. In the most favorable instance he succeeds in causing an artificial excitement in the child, which greatly increases the difficulty in photographing the subject.

By exercising a quiet dignity and merely attracting the attention of the child, bearing its age in mind, to some object which it is able to comprehend, much valuable time will be saved, and more certain results may be expected.

The operator will never go amiss if he treats larger children with a certain seriousness, thus showing them that they were not brought to the studio for fun or pastime. Finally, the operator, to be successful, must always study and endeavor to adapt his demeanor to the station of the life of parent and act the same toward the child.

Every child is used to a certain kind of treatment according to its environment at home, and it is by such treatment that it is

most readily brought into a quiet state of mind. With small children no calculation whatever can be made as to how long they will remain quiet. Not even the shortest period requisite can be depended upon, consequently it is best to forego any attempt at a studied pose.

The operator must endeavor to catch a satisfactory pose as it presents itself. He must be prepared to take advantage of the fortunate moment, even if there is some little awkwardness of position or lack of artistic effect.

A special apparatus has of late been constructed to overcome this difficulty and to photograph children who absolutely refuse to keep quiet long enough for the exposure. This camera admits of a continuous adjustment of the focus during the preparation for the exposure, even after the plate holder is in position and the slide is drawn.

This ingenious apparatus was invented by Haarstick, of Dusseldorf, and consists of two cameras upon a common base board. These two cameras are duplicates of each other, and are connected by a hinge joint (Scharnier) in such a manner that when one is focused upon any object both plates are centered upon the same point. The adjustment of the second camera being automatic and identical with its companion, both cameras are furnished with identically the same objective, so that the operator can watch and adjust his focus and keep it sharp until the very moment of exposure.

Somewhat similar results could be obtained with a camera constructed on what is known as the "reflex" principle, a style of camera thus far used exclusively by amateurs for hand camera work. The principle of construction consists in the introduction of a mirror at an angle of 45 degrees between the ground glass and objective, in such a manner that by the use of a duplicate focusing screen let is the top of the camera the apparatus admits of a continuous adjustment of the focus until the moment of exposure. As the button is pressed, mechanism is set in motion that removes the mirror and releases the shutter at the same instant.

An apparatus constructed somewhat upon this principle, with

special reference to the requirements of the professional photographer, would prove a great boon for specialists in child-studies.

So far as any special pose in a child-study is concerned, it is always best, even with larger children, for the operator to avoid a stiff position, foreign to the ordinary action of youthful life.

Child-studies presenting an appearance in contrast to the usual child-life invariably prove ludicrous and unsatisfactory. It is well to remember that the simplest, most natural and easiest position is always the most satisfactory one with this class of subjects.

When it is desirable to photograph a group consisting of children and adults, it is always best to call the attention of the latter to the fact that good results can only be achieved when they themselves do not cause any annoyance to the operator, so that the latter can concentrate his entire attention on the children.

The same applies to cases where children of different ages form the group. Let the operator put the larger ones on their honor, and tell them that as they are older and more sensible they are expected to conform cheerfully to the requests of the operator posing the group.

Another great difficulty in child-studies is presented by the dressing of the subject. Most fond parents are of the opinion that to have a photograph made of their child it is absolutely necessary to dress it in its newest clothes, preferably white in color.

Irrespective of the difficulties that present themselves in attempting to photograph white drapery, it should be the duty of every photographer to call the attention of parents to the fact that no child feels at ease in a new or stiff dress, and that a pleasing, natural picture may only be expected when the youthful subject is dressed in clothing in which it feels perfectly at home.

Considering the short exposure available for child-studies it is obvious that only by the use of the most luminous (licht-starke) objectives, and powerful developers are the best results to be obtained.

For single portraits of children, even our rapid lenses are hardly

luminous enough, and great care must be exercised so as not to reduce the illumination still more by stopping down the lens unnecessarily. In addition to this the most active developing solutions must be brought into play to bring out the desired details.

There is perhaps no better developer for instantaneous child-studies than the group of rapid alkali developers, among which rodinal for softness, and amidol for extraordinary energy, deserve to be placed in the front rank.

In respect to the instantaneous shutters necessary for successful child-studies, the focal plane shutter is perhaps the most advisable, as they admit the greatest amount of light gradually to the plate, whereby even a slight movement is neutralized.

In conclusion, the advice is given that all original child-studies should be made in small sizes, and upon no account attempt anything larger than a cabinet size. When larger sizes are wanted the order should be taken with the proviso that the original photograph should be of small size, and then enlarged to the desired size. Here we have the possibility of getting the desired depth of focus with the luminous objective, which can then be enlarged in the camera, showing scarcely any perceptible loss of definition or sharpness.

"If my employer does not retract what he said to me this morning, I shall leave his store." "Why, what did he say?" "He told me I could look for another place."—*Harlem Life.*

Plagiarism.—Foreman—"This poem that fellow tried to palm off on us is Milton's 'Paradise Lost.'"

Editor—"I knew it. We'll write the whole thing up, and then send Milton a marked copy of the paper."—*Atlanta Constitution.*

Have to Work Now.—First Congressman—"Well, we will have to go home and do a little work now."

Second Congressman—"Yes, I don't really see how we will manage to do it."

First Congressman—"It will seem real awkward at first, but I suppose we will soon get used to it."—*Atlanta Journal.*

THE TURKEYTOWN HYPO CLUB.

BACK AND FRONT OF THE SCENES.

THE regular midwinter meeting of the Turkeytown Hypo Club was called shortly after the advent of the new year. As matters of vital importance to the club were to be acted on, the Board of Censors, as the governing body of the club call themselves, was convened an hour before the regular meeting, and resulted in a full attendance of Turkeytown's photographic magnates and medal winners.

After the meeting was called to order with the genial Vice-President, Mr. George Josephus Pirogalus in the chair, the latter opened the proceedings by stating that this preliminary meeting was called to consider the financial condition of the club. This was the first meeting of the new year, the dues were now payable, and it was absolutely necessary that something should be done to bring about a renewed interest in the club. Further, the landlord was not only impatient, but even went so far as to make mention of the constable and a distress warrant if his demands were not soon complied with.

The honorable secretary and treasurer here arose and stated that what the chairman had said was true. Finances and applicants were scarce and old members chary in paying up the dues.

Mr. Focalplane asked what had become of the balance in the treasury, so long as it was not used to pay rent.

The honorable secretary and treasurer in response stated that it took all the available funds that were on hand to have medals struck for the prize-winners of the last club exhibition; further, that the medals took precedence over everything else.

Prof. Gobler said that he had matured a scheme by which the whole financial problem might be solved. That if every member would make it his business to bring in one or more new members, who would pay their initiation fee, together with one year's dues in advance, it would fix up matters all right without necessitating the censors putting their hands in their pockets to make up any possible deficiency. Dr. Oxalate said that such a scheme would

never answer, as it must bring in a number of persons who would not come up to our social standing, or it might bring in some one who would even want to get one of the medals, or worse than all, some of the professionals who photograph for a living might get into the club, and certainly no gentleman a member of the Board would want to associate with an everyday professional photographer.

Mr. Dropshutter said that he perfectly agreed with Dr. Oxalate this was a serious question if it would tend to open the doors for undesirable material, and it was a question whether it would not be better to be sold out by the constable than to permit any professional photographer to come in and thus give him the right to write T. H. C. after his name. Further, such persons would only show their own ignorance of scientific photography by criticising the work of the old members.

Mr. Focalplane proposed that an exhibition be held of such photographs by the members as had been medaled at home or elsewhere; whereby the necessary funds might be raised.

Mr. E. Saturator amended by proposing "that any such exhibition be closed by a lantern night, under the auspices of Prof. Gobler, who would give the descriptive lecture,—all slides to be furnished by members."

Mr. Prisegrab amended, that only such photographs and slides be used as had been awarded the club medal. Dr. Oxalate remarked that if that amendment were adopted it would virtually limit the exhibits to such specimens as were made by the Board of Censors. Mr. Prisegrab answered that that was exactly his purpose in making the motion.

The honorable secretary and treasurer, in reply, said that he doubted whether either of the latter suggestions would give the relief needed,—that the fact of the matter was that the people of Turkeytown were either tired of amateur photographic exhibitions and lantern shows, or else they were not yet educated up to that plane where high art such as is exemplified by the Turkeytown Hypo Club is appreciated. As a matter of fact he felt certain from past experience that any such movement would result in loss of money to the club.

The hour for the regular meeting now having arrived the Board of Censors solemnly filed into the meeting-room to make their report to the Society at large.

This report set forth that the financial affairs of the Club were in a healthy condition, notwithstanding the stringency of the times. In fact, so encouraging was the outlook that it was thought unnecessary at present to give either an Amateur Photographic Exhibition or a Lantern Lecture, as it would only tend to bring the work of the members before an unappreciative public, and make their choice efforts more or less common.

The suggestion of the Board was, that every member should, within the next thirty days, hand in the name of some friend or acquaintance to the secretary for membership. Naturally only such were wanted as would pay their fees upon notice of election.

Further, that the members should bear in mind, and impress upon their acquaintances and friends, that the object of the "Turkeytown Hypo Club" is to foster the photographic art science, encourage such as take an interest in its development, and promote a healthy state of emulation in the photographic community by offering the valuable prizes of the Society at their exhibitions, which are open to all votaries of photography, professional as well as amateur.

After the reading of the report, Prof. Gobler called the attention of the members to a new patent paper made by the Fade & Blister Company. He stated that this paper was made expressly for the high grade amateur, and had properties not contained in any other paper. In fact, prints on this paper would bring a medal at any time, no matter where exhibited.

In conclusion he informed the members that he had several gross of the paper at his office which he would dispose of to the members at list price for net cash.

A resolution of thanks was offered to the learned scientist for his instructive communication.

Adjourned.

J. Focus Snappschotte.

THE EDUCATIONAL INFLUENCE OF PHOTOGRAPHY.*

BY L. HART, F. R. M. S.

AMONGST the early investigators and future discoverers of the science of photography, it may be doubted if any one of them foresaw, even in a moderate degree, the future greatness of the invention that they were assisting to bring forth, nor could they have imagined the great educational influence it was destined to have on the human race in general.

Indeed, among the many splendid discoveries that have graced the nineteenth century, there is not one, I think, more worthy of our consideration than that of the science of photography. Scientifically, artistically and commercially it has placed its services at the disposal of all branches of human knowledge, and, as Dr. Vogel remarks, "there is scarcely a single field in the universe of visible phenomena where its productive influence is not felt."

It is a new language, and may be said to be to form what printing is to thought. Its power is felt throughout the length and breadth of the universe, and not only has it lent itself to science and art in every possible manner, but in its popular form, that of a portrait, it has cheered and gratified the whole race, for whether in the castle or in the cottage, its influence has alike been felt.

Before entering upon the subject proper of this paper, I must ask your indulgence to diverge for a moment, and explain what I infer by "educational influence."

It has been said that we are over-doing education, and are rendering the masses unfit for their daily occupations. This may be true in exceptional cases, but not in the aggregate. Education may be divided into three classes—first the A B C, rising into higher classes, the college and the university; secondly, the home education, whose teachers are the father, mother,

* Read at the Intercolonial Congress of Photography, Melbourne, Australia.

brothers and sisters, the instruction given being love, honor, truth and veneration; thirdly, that larger education learnt in the passage through life that renders man the useful and honored member of society. It is more particularly to this last form of education that I must refer, and I maintain that the laboring man has as much right to be able to translate Latin and Greek, or to use a camera, as any other member of the community. The human mind requires recreation from its habitual labor, and there is no form more agreeable and beneficial than that of acquiring knowledge.

We will now pass on to our subject, and take photography as an illustrating medium. It it conceded that illustration heightens the interest of the reader, and generally assists in his appreciation of the facts set forth, and in the current literature of the day, devoted to travel, science, art and manufactures, authors, artists, engravers and publishers have a rare aid in photography to pictorial illustrations. For centuries past illustrations have been used that depended upon the artist for fidelity; these in turn were engraved on wood, copper or steel, and finally by means of the lithographic stone, these illustrations being produced by means of lines, dots and cross hatchings. Many of them were veritable works of art, giants of beauty; and many more were terribly innocent of either beauty or truthfulness. A few years ago photography came into the field, and for some time its only value was its correctness in form and detail. A few more years and engraving was not only seriously interfered with but is to-day almost driven out by photo-zinc blocks and photogravure, processes that rival the best engravings in execution, while for truthfulness of form and detail they stand masters of the situation. Works similar to those executed by M. Goupil & Co., of Paris, are specimens of what can be done without the aid of a mechanical engraver. Our books, magazines and newspapers have all eagerly accepted its services, because of its great adaptability as an illustrator, consequently in this sense photography may be said to be an educational influence. Now, how does she stand relative to art herself, not fine art? She is essentially a copyist, but such a copyist that she stands alone; indeed,

it would be folly to attempt to rival her. Take, for intsance, the beautiful old engravings of Albert Durer, of Martin Schoen, and others of their time, and where could you find a process that would copy them in all their perfection of beauty and peculiarities, except in photography? Now these originals are very rare, consequently very expensive and not to be possessed by the ordinary run of students. Let us here ask the question, "In what consists the value of an original to the average student?" There can be but one answer, "For the correctness of its beauty and peculiarity," each master having his own cachet or distinguishing mark, and by such his works are at once known; therefore if a copy should be procured *exactly* like the original, such copy would be of equal value to the student as the original, and this is just what photography does, and does well. I remember making a copy of Durer's Passion, the originals being in the possession of the Duke of Brabant; with his permission they were published and sold at 8 francs the set of twelve or fifteen, a wonderful boon to all interested in art. The originals were valued at twenty pounds each. In like manner the studios of the old masters, of Rubens, of Raphael, of Vandyke, Del Sarto, and all their host have been distributed over the whole world, by being reproduced in collotype and Woodbury processes. Such works as these are productive of an educational effect on the mind, an educated eye, and an emotional art feeling is created without any apparent effort. As it is generally admitted that the study and appreciation of works of art is good and beneficial to man, it follows that the process by which such works are best reproduced must possess an educational influence, and the pity is that more of these works are not hung up in our nurseries and public and private schools, in place of the cheap and incorrect lithographs found there so often.

From the copying of art subjects let us now turn to nature's own subjects. In Australia we are far from the scenes of the old world, and few, comparatively speaking, of our people are able to visit the older countries of the world, but all would like to know of them. What is our little world of architecture when compared with the structures of the mighty empires of the past

and present? Have we no interest in the stupendous works of our fellowmen? Have the beautiful relics of ancient Rome and Greece, the mystic ruins and temples of ancient Egypt, the remains of the early civilization of Peru and of Mexico, no lessons to teach us? Are we so indifferent that the existence of India, of China, of Europe, indeed, of all parts of the world, are of no moment to us? No, we are not, and thanks to photography they are brought to our very doors—their landscapes, seascapes, architecture, nay, the very habitats and customs of the people, are handed over to us. Shall we stop our researches here or go on to baloon work, scenes taken in the bowels of the earth, in the very depths of the ocean, all the work of the camera, and further proof of its educational influence. Since the advent of mechanical processes in connection with photography all these illustrations may be obtained at a very small cost, as an instance let me cite the publication of a work entitled *All Round the World.* Its monthly parts contain twelve large photographs (each 12 x 10 inches) direct from nature, with appropriate letterpress, at a cost of sixpence per month. I have also views of Palestine, Egypt, Italy, Wales, etc., in pacquets containing six half-plate photographs, well executed, costing only sixpence each.

These are only a few instances out of many where photography comes in as a powerful factor in the diffusion of knowledge; let us not forget what the Right Hon. G. J. Goschen said regarding education. "Education," said he, "should deal with men's lives, as well as enable them to earn their daily bread. Education should ennoble, beautify and brighten their lives, increase their pleasures and powers of happiness."

It is, however, in its application to science that photography shines out pre-eminent, and has become its indispensable adjunct. In astronomy, after long years of patient research and oft repeated trial, it has now conquered difficulties and has taken its place as a faithful and valuable auxiliary. Mr. H. C. Russell, Government Astronomer at Sydney, N. S. W., in a paper read before the Science Congress at Adelaide, remarks, "The invention of the telescope itself does not mark an epoch more distinctly than the admission of the camera to the celestial armory." And

again, "By this new lever the progress of astronomy was urged forward at a rate which accomplishes more in ten years than was possible in a hundred years by older methods."

Sir Howard Gruble, speaking at the Photographic Conference of Great Britain, says, "There are very few persons who have any idea of the great debt that astronomy owes to photography, for the helping hand she has held out to those who devote their lives to astronomical research." Photo-spectroscopy has also added much valuable aid to stellar photography. In like manner has she given her services to surgery, ethnology, geology, botany, physics, micrography, etc., but I must pass on with only the mention of these services here, leaving for some future occasion a more detailed account of each.

I mentioned in the opening remarks of this paper that part of education relating more particularly to love, honor, and veneration, and in the application of photography to portraiture we may find another proof of its worth.

Fifty years ago portraits were rare and expensive luxuries; of course I refer to good work. Portrait abortion manufacturers were to be found scattered about everywhere, indulging in the name of "artists," but their productions were anything but artistic. A few years come and go, and portraiture has been completely revolutionized. Not only have millions of correct portrajts become the possession of the masses, but exquisite productions (enlargements) in carbon, bromide and platinotype processes are simply unrivaled.

These are not confined to the palaces of royalty and opulence, but are to be found in the humble cottage, or the rude bark hut of the miner and fossicker. Who can limit the sympathy, happiness and good results produced by these means? We now have offered to us the portraits of emperors, kings, princes, statesmen, scientists, artists, warriors, authors, all persons of distinction in one form or another, mostly men of good mark, and as the presence of good is generally productive of good, we could not or ought not to have the portraits of persons, of whose virtues we are assured, constantly before us, without in some degree becoming possessed of a portion of these virtues, and in this

manner photography exerts over us a silent educational influence. The substance may have passed on, scenes of home and childhood may be things of the past, but our grateful thanks are due to photography for making us the possessors of the shadow which recalls sweet memories. We cannot put too much value on our portrait albums; each page contains its own individual history, each gives its own lesson, and morally speaking it has a silent but powerful influence.

Let me mention one more application of photography, which, although coming last, is not of least importance. I mean its adaptation to the oxy-hydrogen lantern. Here is a special manner of teaching at once perfect and interesting, allowing large numbers of persons to see illustrations at the same time, and such illustrations, the wonderful formation of the probosis of a fly, the eye of a beetle, forimunfera, tufutoria, these slides having been photographed in connection with the microscope, and then thrown on a screen 30, 40, 50 feet in diameter. No words can adequately describe their value. They must be seen to be appreciated, and it may well be understood the great charm such views have on old and young alike. Travel, art, science, history, in short every thing that is, can be taught by these means; we can know all about the Chinese, the Hindoo, the Esquimaux, about all peoples. Our occupation may forbid our roaming, or pecuniary matters may stand in our way, ill health may prevent many from traveling, but how grandly here photography comes to our aid, and we are not entirely denied the knowledge we wanted. I feel that I could dwell longer on this subject than the nature of this paper would allow, for the knowledge of our fellow creatures is a good, interesting and important one, and the want of that knowledge is still great, and some of the bigoted ideas of past years are so firmly fixed in us, that it will take many years yet of careful teaching ere we are generous and, indeed, truthful enough to estimate our fellowmen of other nations at their true value. Were this the only application of photography to educational purposes, it alone would claim our lasting gratitude.

It now only remains for me to remind you that we are rapidly

approaching a time when all things will be valued according to their educational worth, in proportion to their sociological influences and power to propagate the sentiment of beauty in the popular mind. I have shown that photography is having a large share in this, that it has been made to bring under popular view all that has been rare and almost unattainable, including the features and forms of suns and planets, the forms of life whose whole existence is spent in the eternal darkness of deep ocean, the forms of life so minute as to require their magnification up to one thousand times their original size to be able to properly illustrate them, and finally to depict on the sensitive plate the forms of stars that were not visible to us either by the naked eye or yet in a powerful telescope. For the present we must stop here; the future may be even grander than the past. Photography has for its motto, "Truth and utility," and as such it justly claims to be one of the most powerful educational influences that our planet has ever possessed.

Our highest joy comes when others rejoice with us.

Indifference values nothing; prejudice never discriminates; jealousy depreciates; love magnifies all that is excellent, and is blind to the rest.

People sometimes do not say what they really mean. It is not a case of deliberate misrepresentation, but of surface talk. When their deeper nature speaks, the truth comes out.

After we have lowered our grudges into the grave forever, and covered them with the sweet mother earth of loving deeds, let us not spend too much time visiting the cemetery.

On the day before the auction hundreds of worthless things went into the rubbish pile. They ought to have gone there long before. We had stumbled over them for years, thinking they might "come handy sometime." Don't hesitate to sacrifice the rubbish, whether in the studio or in your heart.

THE P. A. OF A. CONVENTION FOR 1896.

CELORON PARK, on Chautauqua Lake, has been selected as the next meeting place for the convention. This is without doubt the grandest site for a photographic convention imaginable.

Celoron is located near the foot of Chautauqua Lake, on the south shore; it is a modern pleasure park, where every imaginable form of healthy and refined amusement is found. For instance, there are three water toboggan slides; a modern base-ball park, with stand, etc.; bowling alleys, billiard rooms, merry-go-rounds, electric fountains, magic mazes, roller skating, theatre, band concerts, etc. The auditorium building was erected during the early part of this year, for convention and exposition purposes, and is certainly the best adapted building for photographic conventions that could be procured anywhere. There is an endless amount of most desirable floor space, with ample top light, splendid ventilation, lighted at night with hundreds of incandescent lamps, together with numerous arc lights. This building is replete with committee rooms, large stage, etc., and, in fact, everything that could be desired for convention purposes.

Celoron Park is reached by boats and electric cars, running at frequent intervals between the hotels and boarding cottages at Lakewood, Greenhurst, and Jamestown, where ample hotel accommodations are found at reasonable prices.

The convention at Chautauqua Lake is bound to be the banner convention in the history of the Photographers' Association of America. Hundreds of photographers who never attended a convention before will be there, and have with them displays of their best work, which they will put up for comparison with the work of others. This idea seems to be growing very rapidly in popularity: many photographers who never thought of entering into competition for prizes, since having this idea called to their attention, have declared their intention of taking advantage of the same. The idea of displaying their work for comparison only,

"AN AFTERNOON TEA."

PROFESSIONAL FLASH-LIGHT PHOTOGRAPHY WITH BLITZ-PULVER.

NEGATIVE BY J. L. MORRIS,
LAWRENCE, KANSAS.

and coming in contact with the leading photographers and expert workmen who always attend conventions, is one of such vast importance that they cannot afford to let it pass. Every photographer who attends the convention should make it a point to make a display of the best work that he can produce, and by comparing it with the work of others, and by the intercourse with experts in the profession, he will gain points that could not possibly be obtained in any other way. No photographer can carry the quality of his work in his mind to the convention, and the only way to get the full benefit of the information to be gained there is to take the work and put it up, be it good or bad, and, if it is the best he can do, he can have no reason for being ashamed of the exhibition, and, after he has had the experience of this great convention, he will feel fully repaid for any trouble or humiliation that he may have felt.

Away up in the Clouds.—The highest permanent astronomical observatory in the world—on the summit of Mount Blanc—was completed and fully equipped with instruments a short time ago. There has been a temporary station there for some years, but the instruments have been small and of little power compared with those now in place.

The establishment of this observatory was a task which at the outset seemed impossible, and the obtacles which M. Janssen, who headed the quartet of French astronomers, had to overcome were unparalleled. Mount Blanc is nearly sixteen thousand feet high, and its ascent, even under the most favorable conditions during the summer months, is difficult as well as dangerous. The transportation of many heavy and delicate scientific instruments to the top of this loftiest mountain of the Alps was, therefore, a labor so great as to seem beyond the range of possibility, yet it was accomplished without the loss of a single life. The telescope and the other instruments had to be taken to pieces before being carried up the precipitous mountain sides; even then some of the packages weighed a hundred pounds, and most of them about fifty.

One of the guides who assisted in the work holds the record of having made the ascent more than five hundred times since the beginning of his professional career, and it was he who found recently the bodies of the Austrian professor and his two guides who lost their lives not long ago.

SNOW PICTURES.

BY REV. F. C. LAMBERT, M.A.

BY the term "snow pictures" we generally mean outdoor work done when either the ground is more or less covered with snow, or the trees are bejewelled with sparkling crystals of hoar-frost, or sometimes a combination of both conditions. Now, in our climate these aspects of nature only occur at the winter season, and not seldom do they come somewhat unexpectedly. Thus we wake up one morning to find a cover of snow, or the trees hoar-frosted, and being impressed with the beauty of the scene—knowing that the effect may not last long—we seize our camera and rush out for work (of by no means easy character) without more than a moment's thought as to the possible difficulties and probabilities of failure. That many plates are wasted in this way is a matter of common personal experience, supported by the large proportion of only imperfectly successful snow pictures shown in exhibitions. As to the "unnumbered" that perish in the dark-room, who shall say?

Possibly a few hints from personal experience, directly and indirectly, may serve to help those who are more or less inexperienced with this class of work. The hints may conveniently be grouped under three or four chief headings,—viz., "Selection of the Subject," "Exposure," "Development," "Printing and Mounting and Framing."

Selection of the Subject.

Obviously this stands first in natural order. If the subject be inappropriate, badly arranged, etc., then no skill in subsequent operations can possibly do more than "make the best of a bad job." This truism is shown again and again in the majority of exhibited snow pictures. Let us, therefore, inquire what are the special conditions of success which seem to be of chief importance in the selection and composition of such pictures? This question suggests another one,—viz., What are the peculiar features of the subject? The answer gives us the clue, not only

to some of the difficulties of the arrangement of the subject, but also is of first importance in exposure and development. It is simply this—*an unusual degree of light contrast.* It is not sufficiently generally known that freshly-fallen snow in direct sunlight is probably the lightest, whitest substance known, and that the whitest paper is moderately-dark gray in comparison. Thus snow pictures present us with a substance very much whiter than anything else, and at the same time the tree trunks, underside of stones, projecting roofs, etc., are *by comparison* very much darker than we usually see them. In the large majority of cases exposure failures are due to under-exposure, the judgment being upset by this unusual contrast. Next, having recognized the fact that snow-pictures mean a much greater contrast of light and dark than we get at any other time, how are we to apply this knowledge in selection and arrangement of the subject—say an inch square? We must remember that in, say a quarter-plate picture, the greater part of which consists of very light subjects, one small patch—*e.g.*, a square inch or less of very dark or quite black—" comes stronger," as artists say—*i.e.*, is more telling, more pronounced than it would be were there more half-tone, more intermediate gradations of light and dark. Hence we must in practice remember to employ any very strong darks only sparingly. The best snow pictures that you are able to call to mind will probably tell you that of actual intense black there was only just one, or, perhaps, two, quite small parts. For instance, if the scene be a country lane, with cart tracks along the snow, and a cottage with open door in the middle distance, and trees partly snow-covered beyond in the far distance, the snow effect is maintained throughout. But on examination, although the cottage is dark against the lighter background, yet the only bit of very strong dark is that patch shown by the open door or the bit under the dark thatch. Had the trees now in the distance been in the immediate foreground, their trunks and stems would, by ordinary photography, have probably been rendered by black flat lines, inky rivers, forming an irritating network. Remember that the most important element of pictorial success depends upon *general effect.* And in a snow or frost scene the general effect is light

and whiteness, not blackness; therefore, while a little strong dark is help by way of contrast and giving length to the scale of tones, yet any excess must detract from the general effect. Next, we must observe that the lights and darks of nature are *always graduated.* A very simple experiment will illustrate the way this important term is here used. Take a bit of black paper an inch or so wide, and say six inches long. Lay this flat on a sheet of the whitest note paper at hand. We have a narrow flat black strip surrounded by a flat white background. Examine it at arm's length in strong light. The result always is flatness, and not too pleasantly suggestive of a tree trunk against a snow background as too often rendered by photography. Now roll up your black paper (round a pencil) into a long narrow tube. Hold this upright, and the white paper nearly horizontal and sufficiently near the window, so that both are well lighted. The black paper tube, although still black—*i.e.*, very dark in comparison with the white paper—has a lighter and darker side, and between the two a series of intermediate degrees of darkness—*i.e.*, the black is graduated. Holding the black tube in such position that it casts a shadow on the horizontal white paper, look at this shadow and notice that this again varies in degrees of darkness, the part nearer the pencil being the darker. (Nearly closing the eyes and looking through the eye-lashes will help you at first to see these finer differences.) Again, although it may not be easy at first to appreciate it, the white paper held horizontally, so that one part is nearer than another, shows gradation. This would be better seen if we had a piece of paper 20 yards long instead of only a few inches. The black paper tube may represent a tree trunk or other dark object, and the white paper the snow-covered ground. We know how photography sometimes renders them as flat, ungraduated patches, and how it ought to present them graduated as in nature. Now to return to the practical application of this universal principle. Violent contrast tends to hide gradation—*i.e.*, if against a very delicately graduated background of very light tone we place in actual juxtaposition some very dark object, the violent contrast tends to flatten the gradation. But if we interpose between the very light and very dark parts something of

intermediate tone, perhaps in some (but not all) cases we lessen the contrast effect, yet we generally more than compensate any loss by contrast by gain in gradation and general effect of delicacy.

In other words, the juxtaposition of the darkest and lightest parts, while accentuating contrast, do so at the expense of gradation and delicacy. To return to the imaginary example, the dark patch of the interior of the cottage, as seen through the open door, does not come in close contact with the whitest snow, but is connected with it by the surrounding grey walls of the cottage. The attempt has often been made to compose a picture of snow-clad mountains and dark fir trees in the immediate foreground, but it may be questioned whether it ever has been or is likely to be done with success. The strong darks may on very close examination show some slight gradation, but this is practically lost by the violence of the contrast.

The reader has probably seen skating scenes, dark figures against a snow-white background, and must have observed that the figures nearly always (and especially those in the near foreground) look more like flat, black silhouettes, rather than solid figures. This is partly due to violence of contrast, often accentuated by under-exposure and faulty development. In connection with this point one must be specially careful to avoid any *lininess* of strong darks in the foreground. The writer well remembers judging prints sent in for a winter-scene competition. In many respects the best picture was quite spoilt by the five-barred gate in the foreground. This gave the effect of some one having tried, with very black ink, and a very broad pen, to cross out a certain part of the picture. Had the competitor moved a few yards forward, so as to avoid this fatal defect, he would have been a prize-winner. As a general rule (with many exceptions, of course), one might say that it would be well to avoid any strong darks in the foreground at all, and that it is better to arrange the strongest dark in the middle distance, and not have it too large in quantity, and not to arrange it so that it comes in juxtaposition with the highest light.

The next point of importance follows in logical sequence. In

aiming at a general effect of snow brightness and whiteness we must concentrate (in most cases) chief interest and attention upon that part of the picture which is calculated first to catch the attention of the spectator. This is nearly always the foreground, and, luckily for us photographers, this is the part over which we have the most control. The most common mistake is to select some even, clean, unbroken patch of newly-fallen snow. This in nature is beautiful by reason of its pure whiteness, sparkle, and transparency. But seeing that we have only white paper to represent this, it follows, as a natural consequence, that the print is entirely disappointing. Consider the position a moment. The brilliant whiteness we cannot even approximately imitate, we can only suggest this, and this can only be done by giving close attention to its characteristics—viz., transparency and gradation of shadows. Many of my readers will remember, as one of the few successful snow pictures, that by Eikemeyer, shown in the '94 Salon and elsewhere, entitled "Home, Sweet Home," or words to that effect. Nearly the whole success of this very charming picture was due to the delicacy of the rendering of the foreground, snow broken by footsteps, etc. The subtle gradation was one of its chief charms. The writer also recalls one other somewhat similar picture of a country lane, where the snow had drifted into strange and fantastic mountains and craters, overhanging wave-crests casting wondrous shadows into the snow hollows. There was very little, if any, actually white paper, but much that was so delicately shaded that one felt the whiteness of the light suggested by these thin, exquisitely graduated shades. Where it is intended to introduce foreground figures, animals, etc., every care must be taken to avoid the serious probability of their coming out as black patches. Attention must be paid to the local color of the figure dress, etc., to its immediate surroundings, so as to avoid accentuated contrast, and to correct exposure, so as to give detail and roundness. The reader will, no doubt, have noticed in this connection that among snow pictures, with animals in the foreground, that sheep generally come best, or, at any rate, better than dark cattle or white birds, ducks, swans, etc. In the latter case we know and think of the birds as very white,

but they are not so white as the snow, and consequently do not seem right. The dark-red cattle come too dark. But the gray sheep come much nearer what we are accustomed to picture them to the mind's eye—*i.e.*, as grayish. Similarly a woman with red cloak in nature suggests a pleasant warmth of contrast, but in our print is cold dead black against intense white.

The last point to be mentioned just now is that of giving extra attention to avoiding spottiness, patchiness—*i.e.*, as opposed to breadth or massing of tone. Everyone knows the spotty, dotty effect in nature and in a photograph of a flock of sheep scattered more or less at regular distances from each other in a grass field. This is bad enough at best; but it is not so bad as a similar arrangement of animals when snow is on the ground. The accentuated contrast renders things much worse. The same result obtains when tufts of grass (dark) come up at regular intervals through a thin cover of snow. It may be also brought about by a dotted row of houses or trees. Very often, by moving the point of view right or left, back or forwards, or lowering the camera nearer the ground, these patches may be massed or grouped together. Each case must, of course, have its own treatment; but we may call special attention to the general principle. The same result obtains by including in the picture anything like a network of dark lines, say tree branches, railings, shipping, cordage, etc. Intricacy of pattern or arrangement is always bad, but the evil is accentuated by value contrast. Composition is the art of putting the right things together and in the right place; and in no case, perhaps, does a faulty arrangement become so conspicuously apparent as in snow pictures. Thus every care must be paid to grouping and sub-grouping, so as to get connection of parts one with another, and so avoid any tendency to spottiness.

To sum up briefly the chief points of importance:

1. The contrasts (of snow and ordinary dark objects—tree trunks) are very much greater than we are accustomed to at other times of the year.

2. Contrasts of strong light and dark accentuate each other when in juxtaposition, but at the expense of gradation.

3. Any great mass of strong dark is not needed; is often injurious, when in excess, to pictorial effect; and should usually be connected with the strong light by intermediate tone.

4. The general effect is more important than any detail quality. This general effect of whiteness and light is best attained by close attention to gradation.

5. The foreground should receive special attention as regards its arrangement and gradation of lighter tones.

6. Spottiness or patchiness must be specially guarded against.

7. Foreground figures, animals, must receive special attention as to local color and surroundings.

8. Very little (if any) actually white paper (or quite black) is needed or desirable, the chief attention being given to delicacy of gradation at the lighter end of the scale.

9. Any intricacy of arrangement of darks should be carefully avoided.

10. The strongest dark should seldom or never be put in the immediate foreground.—*Photographic News (New Series).*

An appropriation of a million dollars has been given to the Museum of Art in New York, for the erection of a great eastern wing to the building.

A Minnesota girl of 15 can distinguish no color, everything being white to her, and she is compelled to wear dark glasses to protect her eyes from the glare.

Cork, although the lightest of solids, has a limit of buoyancy in water. If sunk two hundred feet in the ocean it will fail to rise again, owing to the immense pressure surrounding it. At a less depth it will gradually work its way to the surface.

The paper for the Bank of England notes is always made from new white linen—never from rags or anything that has been used before. So carefully is the paper prepared that even then the number of dips into the pulp made by each workman is registered on an automatic dial.

MARVELOUS IF TRUE.

A CABLEGRAM from London to the *Sun*, dated January 7th, says: The noise of war's alarm should not distract attention from the marvelous triumph of science which is reported from Vienna. It is announced that Professor Röntgen, of the Wurzburg University, has discovered a light which, for the purposes of photography, will penetrate wood, flesh, and most other organic substances. The Professor has succeeded in photographing metallic weights which were in a closed wooden case, also a man's hand which shows only the bones, the flesh being invisible. The *Chronicle* correspondent says the discovery is simple. The Professor takes a so-called Crooke's pipe, viz., a vacuum glass pipe with an induction current going through it, and by means of rays which the pipe emits, photographs on ordinary photographic plates "In contrast with the ordinary rays of light these rays penetrate organic matter and other opaque substances just as ordinary rays penetrate glass." He has also succeeded in photographing hidden metals with a cloth thrown over the camera. The rays penetrated not only the wooden case containing the metals, but the fabric in front of the negative. The Professor is already using his discovery to photograph broken limbs and bullets in human bodies.

Later advices from the same correspondent state that the marvels of Professor Röntgen's new photography are even greater than those which have been described in recent despatches. All the Professor's experiments have been successfully repeated in London recently, and many of them were shown at the meeting of the Camera Club. It proves that the strange medium which produces images of hidden objects on a photographic plate is not light at all. It is equally incorrect to describe it as electricity. It is some force or influence produced by Crooke's tube when excited in a peculiar manner, but it is not the visible light or glow which comes from the tube. That visible light has the same qualities as an ordinary light. The invisible new medium has not the same qualities. For instance, it will not penetrate clear glass. It will penetrate ground glass, though more feebly than wood and other organic matter. Aluminum is far more transparent than glass. Even copper is less opaque than glass.

Mr. Swinton, the well-known electrical engineer, showed a large collection of these strange photographs which had been taken to the Camera Club. He employed a half horse power electric current, and passing it through an induction coil, loaded ten Leyden jars. The discharge from them was passed through a second induction coil by a

secondary system by which Crooke's tube was excited. He said that he had only succeeded in this way, and had failed with Crooke's tubes excited by an ordinary induction coil.

He showed pictures of the skeleton of a living human hand, a purse containing coins in which only the coins and the metal clasp of the purse were reproduced, and other objects.

The method of procedure was simply to place the object to be photographed *between* Crooke's tube and the usual wooden case containing the sensitive plate in which the negative is placed when carried to and from the camera. The slide is not removed, and an exposure of from four to twenty minutes is required.

HOW TO FIND NEGATIVES.

MUCH time is lost, and patience expended in what is very often a futile search for some particular negative. Perhaps an hour, or even more, is wasted by hunting through two or three hundred of one's photographic successes and failures. To obviate this expenditure of time, we would like to suggest a method of indexing that the writer has found very useful.

The pecuniary outlay for the necessary materials is trifling, and is covered by a few pence. Two note-books, indexed, are all that one requires. The one contains a numerical, the other an alphabetical, index.

Empty plate boxes are used for storage purposes. Every box should have a gummed label affixed upon the side of the box, each label bearing its own distinctive number. Plate boxes when filled may be kept ranged on a shelf like so many books. A system of double indexing is used.

The numbers 1, 2, 3, etc., refer to the boxes; under the alphabetical headings are found the titles or subjects of the various pictures. A concrete example will perhaps make my explanation more lucid.

One wishes to find a negative exposed, let us say, in Guernsey. Reference to the letter G in the alphabetical index, shows one that Mail-boat Approaching Guernsey 6.30 A.M. is stored in box 12. By adopting this method much time and temper are saved. —*Written for the British Journal Almanac.*

LOOKING PLEASANT AT THE CAMERA.

BY CLARENCE S. RUSSELL.

THERE is a photographer in Washington who owns the strangest collection of photographs in existence. The photos are the rejected pictures of distinguished men who have sat before his camera.

When a great man has his picture taken, he poses not once, but many times. Harrison has quite often had thirty snaps taken of himself at one visit to the photographer. This is to avoid the time and trouble of coming again and to be sure of one satisfactory picture.

In the lot where so many pictures are taken are always some "shifty" ones, pictures where the men moved, or winked too often. These are thrown away. But there are several that are rejected on account of the expression of the face. It is too sober or too smiling. Neither the subject or the photographer wants to place it upon the campaign banners.

It is these pictures, the too smiling ones, that the photographer has preserved. He finished them up, mounted them, and now has an album of the queerest photographs in the world. The men within are a pleasant-looking lot, but quite different from their faces as you commonly see them. He does not often show them, but when he does he tells with glee the story of collecting them.

Not long ago he exhibited them to a favored visitor:

"This picture of Allison," said he, turning to a robust, smiling figure of the Iowa statesman, "was taken a long time ago, when Allison was plumper in the face and more sociable than he is to-day. The picture was one of the first ones taken for public print.

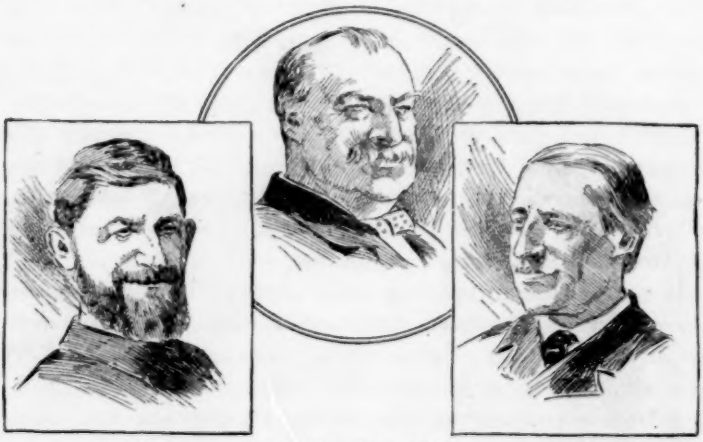
"When Allison came to me he was all smiles and good-will. Both qualities show right out of his eyes and in the curves of his mouth. 'I want you to look pleasant,' said I, 'but don't smile too much.'

"'Do you mean to say that I am a man that goes around grinning at everybody,' replied Allison.

"'No,' said I, 'but you've got what we call out in Iowa a benevolent cast of countenance.'

"That made him laugh all the more, and I had to snap him as he was and wait for a sober topic to bring a sober look to his face. I've got the old picture yet. It is a walking memento of the happiness and freedom which public men sacrifice when they enter the public arena.

THREE LAUGHS, TAKEN UNAWARES.



BRICE'S SHARP SMILE. KEPT FOR THE BABIES. GORMAN NATURALLY LAUGHS

"Not one man in twenty has seen Grover Cleveland laugh. When he smiles his cheeks come up to hide his eyes, and his face is all wrinkles and dimples. It isn't the same hard-faced Cleveland. But he saves his smiles for the babies.

"I caught one of them once, and I smiled myself sick at the strategy I employed. Cleveland came in, in a hurry, as he always is, to sit for me.

"'Don't hurry to-day, Mr. Cleveland,' I said. 'Take plenty of time for this picture.'

"'Can't do it,' said he brusquely. 'I've got to be at a meeting in five minutes.'

"'Then, if you are in a hurry, Mr. President, you can shorten this operation by looking straight at me and assuming your most pleasant cast of countenance.'

"Instantly Mr. Cleveland's face took on that fearfully serious look he always wears, and his whole physiognomy bore that heaviness so noticeable in his presentments.

"'Oh, Mr. Cleveland,' said I, in despair, 'don't look like that! Smile at the camera once, just once!'

"'What should I do that for?' he queried, glowering at me and scowling like the picture you see oftenest of him.

"Near me stood a girl assistant, a bright little thing, clever and as up to tricks as the best camera artist. She is a respecter of persons, but not to the extent of being afraid of Mr. Cleveland.

"She whispered something to me. I turned my head to hide a smile.

"'What is it?' asked the President.

"'Miss X. suggests,' replied I, 'that she could make you laugh by the same means she amuses the children'—

"At this there arose a din at the side of the camera and a ringing of bells. The President turned his head!

"There was Miss X. flinging a handful of sleigh bells and pulling the string of a jumping-jack at the same time.

"She turned away quickly for fear of offending our august visitor, but I had a picture of Cleveland—smiling!

"Gorman's 'phiz' was taken in Saratoga by a friend of mine. He was at a mineral spring, holding a glass of water in his hand and chatting. He was telling stories, talking politics and enjoying himself all at once.

"His face wore the easy, boyish look it has never lost. That look tells you that Gorman is a man to let Brown do the walking. He does the enjoying. The picture isn't a laugh, but it has a very pleasant look.

"Gorman and Flower are chums, and strange to say have the same expression of countenance.

"Harrison's smile was easily caught. In truth, he is ever near a smile. He is with those grandchildren so much that he doesn't get over smiling from one rock-a-bye to another. It will be a sad day for them if he gets a wife to smile at.

"We caught Harrison's best smile one day when he was out riding towards Georgetown. For various reasons we had cameras posted along the road that day, and even poised in trees, while our camera artists were upon their mettle to get us good pictures. Any Washington photographer, no matter how 'legitimate' he may be, likes to get a collection of these accidental pictures.

THREE SMILES THE CAMERA CAUGHT.

ALLISON'S LONG-AGO SMILE. HARRISON INDULGENT. HOME EXPRESSION OF M'KINLEY.

"They come in good when he is getting up crayons of parties, or he can sell them to the first artist who is painting a picture of these men. These accidental shots save sittings better than prearranged photographs do.

"On this day, rare luck! Harrison was driving out with several of the little ones,—Russell Harrison's and the McKees. Just as as he was in a straight line with the largest of our road cameras he turned his face towards the hills and followed Baby McKee's fingers towards the beauty of some distant animals. The then President smiled indulgently—and we had his picture. His descendants will ask us for it some day. It is such a good one!

"Brice's smile is more fleeting than May sunshine. Now you catch it and now you don't. Brice has a face that is pleasant all the time, but it isn't the smile that passes for a laugh.

"A photographer friend of ours caught one several years ago and sent it to us. Brice was before the camera, and the photographer was trying to make him pose well by talking politics with him at the same time.

"Fortunately, or unfortunately, he touched upon a financial bill then before the House. It was one that would benefit certain political opponents of Brice.

"'That bill has two sides,' said the Democratic politician, straightening himself up and looking sharply at the photographer. 'But I believe in minding my own business, and if they can't see it, let it go.'

"At this there crept a sharp smile across the face of the Ohioan and the photographer snapped the camera upon it. That man is going to be heard of again, and he'll like to know how he looks when he beholds a 'nigger in the fence'—when he looks sharp!

"McKinley's picture smiling, is difficult to get because he smiles only for his friends. With them he is indulgence, joviality and good nature. But when out of the company of those he knows very well he gets back into the serious mien of a thinker.

"A friend of his took an amateur photograph of him with his home smile upon his face, and though she allowed me to copy it, she would not sell it to me. It is to be enlarged and copied in a crayon by herself some day. McKinley's dimple comes out with his home smile, and his eyes have a piercing look.

"Do I think it would be a good plan to print and sell the smiling pictures of our great men? Yes, I do. I think people lose no respect for a man because he smiles, and I know that many think more of him. A smile makes us all kin.

"Cleveland is a man who is ashamed of his laugh, but I know that McKinley and Gorman like to feel that they are still youthful enough to laugh.

"Great men are so oppressed with the cares of a nation that they smile reluctantly, and that is why a smiling picture of a statesman is such a rarity."

PROFESSOR RÖNTGEN'S MIRACULOUS PHOTOGRAPHS EXPLAINED.

THE following highly interesting communication reaches us just as we are going to press with our last form. It is from one of our special correspondents in Germany, and explains the experiments of Professor Röntgen, which for the past month have excited so much comment in the sensational press of the day, and let loose the flights of fancy and imagination in both veracious correspondent and truthful reporter.

Stripped of all sensationalism the facts of the case, according to our correspondent, are as follows:

For a considerable time past, various physicists have been of the opinion that the oscillatory motion or vibration of light was not only transverse, but longitudinal as well. This theory was confined chiefly to such light rays as were absolutely invisible to the eye, and entering upon the ultra-violet.

In the daily papers communications have appeared at various times regarding these vibrations, among the latest being the highly-colored accounts of the experiments by the Würzburg Professor Röntgen.

It is here stated that Professor Röntgen succeeded in obtaining photographs, by aid of these invisible rays, without the use of any photographic apparatus. This statement, impossible as it may appear at the first glance, may be explained by the following statement of facts.

If an induction current is passed through a Geissler tube, filled with rarefied air, there appears upon the negative electrode a thin seam of light, surrounded by a relatively dark, bluish glow of light.

The surroundings of the positive electrode, on the contrary, and the larger part of the enclosed space, is filled with strata of bright, red-yellow light. This phenomena changes perceptibly when the rarefaction of the air within the Geissler tube is increased.

When a certain degree of rarefication of the air is reached the

blue glow light expands, and under certain conditions fills the whole interior of the tube. When this is the case the glow-light causes a fluorescence wherever it strikes the glass.

This phenomenon was studied and published by Hittorf so far back as 1889. Subsequently other scientists beside Hittorf and Crookes occupied themselves with the study of this phenomenon. Prominent among the latter were such authorities as Reitlinger, E. Goldstein, Gintl, Pubeg, Voller, Zoch; and the conclusion was reached that these cathodic rays were endowed with a series of peculiar properties.

The most curious of these qualities is that the cathodic rays spread themselves direct (grad-linig), and not as those of the induction current, which turn corners and follow all the turnings and twistings of the tube. This peculiarity of the cathodic rays was not discovered by Röntgen, but has been known in scientific circles since the publications of Hittorf and Crookes. The former, as well as the latter, gave very explicit instructions for experiments which would show the chief properties of the cathodic rays. Probably the best account is to be found in the well-known text-book of Müller–Pouillet.

Even the peculiarity of the cathodic rays, to show a unique shadow structure, and which now forms the leading wonder in Röntgen's experiments, has long been known, and attention had been called to it.

Now Professor Röntgen has substantiated the fact that the cathodic rays were not undulatory, but extended in straight lines, and were able to penetrate almost all solid bodies, metallic, of course, to a less degree than wood, etc.

Röntgen covered with a roll of thick black card-board, a Geissler tube in which cathodic rays could be produced. Notwithstanding that no rays of light whatever could escape, he noticed in the completely darkened room that a screen with luminous paint, which was on line with the covered tube became luminous or phosphorescent. This action of the light was noticeable on the paint up to a distance of two meters from the apparatus. When any solid objects were placed between the screen and the covered tube, it was noticed that almost all substances

were penetrated more or less by the cathodic rays. A pine board an inch thick had no more effect in obstructing the rays which Röntgen temporarily designates as X rays than several thicknesses of hard rubber plates. Metals on the contrary, even in thin sheets, exercised a more or less weakening effect upon the rays. All of the super-imposed solids threw a more or less dense shadow or penumbra upon the luminous screen.

As an example, when the hand was held between the tube and luminous screen a shadow is created in which the bones of the hand are distinguishable by a much deeper shadow than that formed by the more transparent or permeable substances.

One great advantage, thanks to modern photographic methods, is that these shadow pictures can be made permanent by simply substituting for the luminous screen a sensitive plate, film or paper, which after exposure can then be developed and fixed in the usual manner: these results, however, are by no means a photograph in the accepted sense, but merely a shadowgraph or silhouette, which, under the best conditions, may consist of a penumbral shadow, showing different degrees of density.

This is all there is in Professor Röntgen's miraculous photography. If reports are to be credited, the Würzburg savant has succeeded in obtaining several interesting specimens, among which the deeper shadows in one show the bones of the hand, while in another a series of weights enclosed in a wooden box are said to be perfectly indicated. The latter is a possibility, as the wood offered no greater resistance to the X rays than a sheet of clear glass to the rays of ordinary light.

Thus are the miraculous photographs (?) of Professor Röntgen, taken without camera or objective explained.

JULIUS F. SACHSE.

Rontgen's Photographs.—It is stated in the *Deutsche Photographen Zeitung* that even more interesting results in cathodic photography have been obtained by Carl Zinck, of Gotha, Germany, than by the Wurzburg professor. Carl Zinck is the well-known photo-scientist and inventor of the simplified photo-chromoscope described in our columns some months ago.

PHOTOGRAPHY AND CHRONOGRAPHIC MEASUREMENTS.

FREDERICK J. SMITH.

IN chronographic measurements in physiological experiments photography has been in constant use for several years, and the methods are well known. I have extended the methods of what may be called photographic chronography to measuring the velocity of projectiles. On former occasions I have shown that to obtain the best chronographic results magnetic and solenoidal arrangements should be avoided, since by their use a time lag is introduced.

The following chronographic method depends entirely on light. Two sources of light at a suitable distance apart throw two beams of light on to a sensitive plate, carried on the carriage of a tram chronograph. By means of lenses, the beams of light are caused to form two sharp images on the plate on a verticle line, one above the other; a tuning-fork trace is also made on the plate; if the plate traverses when the beams of light are not interrupted, on development two black parallel lines appear on the plate; but if, during the passage of the plate, the beams of light are cut by any solid object which shuts off the light, then on development two gaps are seen to exist. The distance between these markings when interpreted in terms of the fork trace, gives the velocity of the object which cuts through the beam of light. The method was illustrated by allowing a projectile to pass through the focus where the convergent beams of light from two sources of light cross.

Another method was also shown in which the projectile cut through two thin screens placed in the paths of the beams of light, and so opened a passage for the light. In this case two parallel lines are found on the plate, one longer than the other; the difference of their lengths, when duly interpreted, gives the velocity of the projectile; when the distance between the screens is considerable, the beams of light have to be reflected on to the chronograph by mirrors.

Nature.

THE PENNSYLVANIA PHOTOGRAPHERS' ASSOCIATION.

THE Pennsylvania Photographers' Association organized in Harrisburg, January 29th, 1896. The meeting was called to order at 2.30 p.m.

On motion duly made and seconded Mr. J. Will Kellmer, of Hazleton, Pa., was made temporary Chairman of the Organization.

It was moved that Chairman Kellmer appoint a committee of three to draw up a Constitution and By-laws. The motion was seconded and carried.

Chairman Kellmer then appointed Mr. E. E. Seavey, of New Castle, Mr. Holden, of Philadelphia, and Mr. J. B. Shreiver, of Emporium, Pa., to act as Committee, who then retired.

Roger L. Kirk was appointed Temporary Secretary.

The committee appointed to draw up the Constitution and By-laws then presented a draft of the same, which, after some discussion, were adopted as read.

The Constitution and By-laws were then signed by all present and the membership dues paid. The election of officers was next taken up.

Mr. Frank L. Musser, of Harrisburg, Pa., nominated Mr. M. R. Hemperly, of Philadelphia, for President. The nomination was seconded, and Mr. Hemperly was unanimously elected. Upon taking the chair the President stated that his election was unexpected and a surprise to him, but that he would do all in his power to make the organization a success.

The following officers were then unanimously elected: Taylor Griffin, of Wilkesbarre, First Vice-president; Mr. J. B. Shreiver, of Emporium, Pa., as Second Vice-president; Mr. E. E. Seavey, of New Castle, Pa., as Secretary; Mr. W. J. Goldman, of Reading, Pa., as Treasurer.

The temporary Secretary, Mr. Roger L. Kirk, then read a number of letters and telegrams from the friends of the Association who were unable to be present, expressing kind feelings and good wishes for the Organization.

On motion a vote of thanks was tendered to the parties communicating with the Association, either by letter or telegram, for the kind words expressed.

A number of remarks were made by different members concerning the future work of the Association.

The President having no report to make, the Association proceeded

to the selecting of a place and time for the next meeting of the Organization. After considerable discussion, in which a number of places were mentioned, on motion it was decided to hold the next convention at Harrisburg, on the 26th, 27th, and 28th of January, 1897. The motion was carried unanimously.

The meeting closed with a motion that three cheers be given for the success of the Organization, and for the untiring efforts and diplomacy of members Kellmer and Seavey. This was seconded and carried out heartily.

The following names constitute the membership of the New State Association: R. Hemperly, G. T. Griffin, J. B. Shreiver, W. J. Goldman, E. E. Seavey, J. Will Kellmer, R. L. Kirk, G. W. Patterson, E. K. Cooper, L. Stearns, M. S. Wildermuth, J. P. Cheyney, W. P. Buchanan, M. Thomas, W. F. Slater, F. E. Musser, S. Carrick, Chas. L. Griffin, Chas. Bolwell, W. South, A. Hewitt, E. E. South, A. Holden, W. Nye, O. C. Weber, Wm. Flickinger, H. S. Betts, A. J. Miller, A. Dabbs, L. Lemer, R. A. Morrison, Rice & Gates, A. M. Lease, Thos. H. McCollin & Co., B. E. Coleman, E. K. Gaugler, S. K. Pannebecker, G. Bates.

The following favorable notice of the new State President was printed in the *Philadelphia Inquirer* the day following his election:

Local photographers are highly pleased over the selection of one of their number, in the person of Mr. R. Hemperly, to be the first president of the Pennsylvania Photographers' Association, organized at Harrisburg, on Tuesday, January 28th, 1896. Mr. Hemperly is one of the oldest, as well as one of the most progressive photographers in the country. In 1894 he was placed in nomination for the presidency of the National Photographers' Association at the annual convention of that organization in St. Louis, although it was his first appearance at any of the conventions, and he was beaten by only eight votes out of several hundred. His work has taken numerous medals at national conventions, and his articles in photographic journals, to which he is a frequent contributor, are widely read.

President Hemperly is confident that by the time the next convention, which meets at Harrisburg, January 26th, 27th and 28th, 1897, is held, the membership of the association will have increased to 100.

"Well, 'Rastus, are you used to being rich yet?" "Nor, sah Kaint git used to it, sah. Lor' bless yer! I went out into mah own hen coop larst night an' stole one o' my own chickens, sah."

The Editorial Dropshutter.

We are again called upon to register an explosion of a gas cylinder, attended with sad loss of life and a great destruction of property. This time it was the new illuminant acetylene. Different accounts gave the pressure within the cylinder all the way from 500 lbs. to 2000 lbs.

Light in the Art Gallery.—A most interesting experiment is now in progress in South Kensington Museum. It relates to showing pictures under artificial light without changing the color. Capt. Abney has so arranged it that the most important actinic rays of light are excluded. It is on the principle that while the rays which cause paintings to fade are excluded the effect of white light is obtained. The method adopted is the closing of a skylight with alternate layers of green, blue, and yellow glass. Visiting artists declare that the pictures exhibited under this light are seen in their true colors. The public has not the least idea that there is any difference between the lighting of this and that of any other gallery. The experiment is being tried in what is known as the Raphael Cartoon Gallery.

Northwestern Photographers' Association.—The second annual convention of this wide-awake body will be held in Minneapolis during the present month (February). The officers of the Association are very sanguine as to the results of this coming convention. They think it will completely surpass anything of the kind ever held in the way of local conventions. In fact, some of them in the Northwest seem to believe that the attendance at Minneapolis will rival that of some of the national conventions. A large number of photographers have already signified their intention to be present, and it is an assured fact that a large and interesting display of photographs will be on exhibition at the convention.

An Ophthalmic Experiment.—Much ingenuity has been devoted, at one time and another, to investigate and account for the singular "freak" of nature, whereby we are enabled to see things "right way up." Of course, the images formed upon our retinæ are inverted. Equally of course—as it is popularly supposed—these images present themselves to the brain itself "upon their feet," as it were. Scientific opticians seemed to be agreed that the popular conception of this matter is to a great extent a delusion. The facts of the case are said to be that, at the period of its formation, every part of the human

brain is entirely blank—destitute of ideas. As was demonstrated by the philosopher Locke, all of our ideas are derived from "observation and reflection." Let objects affect our visual organs in an invariable definite manner, with a sufficient number of properly differentiated stimuli, and, no matter whether vision be stereoscopic (normal) or pseudoscopic, or reversed laterally, or vertically, or both laterally and vertically, we may learn to see things (or, which is equivalent, to think we see things) "as they are." In short, the mental appreciation of retinal images is purely and simply a matter of education.

These scientific views may be wholly satisfactory—or may not. In any case they should be tested by experiment, this branch of psychology, or the natural history and philosophy of mind, being very important. The nature of the optical glasses which might be worn to produce either reversed or "pseudoscopic," or both reversed and "pseudoscopic" vision, will be familiar to our readers. Such glasses are to be supplied to any individuals who may wish to undertake the valuable experimental work of re-educating or re-coordinating visual functions of the mind. (We must confess that, personally, we should not care to undertake such an investigation.) However, the medical superintendents of our workhouses and asylums have material at hand with which they can deal pretty much as they please. An experimental education of a human being, provided, from infancy, with the reversing glasses, would be the best means of settling the questions raised; but, as this would be an act of gross cruelty, it is not likely to be attempted. Trial of the method upon one of the lower animals, says *The Optician*, would be more proper, less tedious, and almost equally conclusive.

Explosion of Acetylene.—The building on Crown St, opposite Orange, in New Haven, Connecticut, occupied by English & Merrick and two other firms, was destroyed by fire on the morning of January 21st, which started from an explosion, and as a direct result three lives were lost. The account in the local paper states that about 10.30 in the morning Frank P. Phelager, Sr., a machine jobber, was experimenting with acetylene gas in his shop on the second floor of the building. Around him were a corps of assistants, and it is said that Mr. Phelager was working upon some sort of regulator to control the delivery of the gas from steel cylinders in which it is kept under high pressure, sometimes as high as two hundred pounds to the square inch. Definite knowledge as to the condition of the experiment cannot be had, since the Phelagers positively refuse to talk, beyond acknowledging the experiment. It is known that when the explosion

occurred the Phelagers, father and son, and five men were working about a cylinder of the gas. One of the men, Joseph Hauser, a tool maker, was killed by the explosion. His right leg was torn off at the ankle and the left leg horribly twisted. Charles Fox, an engineer, himself badly cut and bleeding, carried Hauser's body out of the building, which was then rapidly being enveloped in flames. Frank Phelager, Sr., was burned and cut. The force of the explosion tore down the ceiling, and when the department came, and before water was put on the fire which resulted, a second explosion was heard. This was doubtless caused by a small tube of the gas. It was not until 2.30, three hours after the fire was under control, that the bodies of Tooff and Stevens were found by the firemen who were then clearing away the debris. Both bodies were burned beyond recognition, and were identified only by means of peculiarities of clothing or by papers in the pockets. It is altogether within the bounds of possibility that all the insurance policies may be subject to contest, and indeed may be invalidated. It seems that the insurance companies regard acetylene gas and the materials which enter into its manufacture in the same light as they do gasoline, and do not permit the gas to be made or used in any insured building without a special permit. The insurance agents who placed the policies on the burned building said that no such permits had been issued by them. Hauser and Tooff were married and leave families.

The Practical Photographer.—It is difficult to recognize our old friend in his new shape and dress,—forty pages of reading matter, eight full-page supplement illustrations, and a special flash-light supplement. Thus the new editor makes his bow to the photographic world for the New Year. Well done, brother Surface. You deserve the reward due your enterprise.

We want some enthusiastic friends who will give us a practical evidence of their friendship by increasing our subscription list among their friends and acquaintances.

Little Ben lives in a new house, one of the most modern houses, where light, water, heat and other things are all to be had by turning a knob or touching a bell. He lives in a state of perpetual marvel over these things, and the other night, when suffering from a headache, the little fellow said to his mother, who sat beside him: "Please turn on the dark, Mother; my eyes hurt me."—*Louisville Courier-Journal.*

Photographic Hints and Formulæ.

Defects in Negatives and Their Remedies.—*Want of Detail in Lights and Shadows.* It is generally supposed to be due to under-exposure, but this is not always the case. For instance, you expose a plate four seconds. It develops in from 1 to 2½ minutes, and the result is with the above defect. It is a proof that you have used more pyro than the plate required. Now try again. Take a plate out of the same package, give three seconds exposure, use only half the amount of pyro stock solution to the usual amount of sal soda stock solution, and the negative will develop in 3 or 3¼ minutes; result, a fine negative in definitions and brilliancy. On the other hand, a negative may have precisely the same appearance as the foregoing one, but it took from 5 to 10 minutes to develop. Try another and double the amount of exposure.

Granularity of Negative.—This defect generally appears during the warm weather. There are two causes, one the result of insufficient mixing of the developer before pouring over the plate, especially if too strong and too high a temperature. Remedy: Dilute the developer with water one-third, or use ice water without the dilution.

Another cause is the fixing bath being too milky, through containing too much alum. Remedy: Never use a fixing bath which is muddy. Filter it.

Flatness, or Want of High Lights in Negatives.—This generally is due to overtiming. The more rapid the plate, the less latitude you have in time of exposure. A slower plate always gives a wider range. Too much sal soda produces flatness, also a developer weak in pyro.

Small, Round, Sharply Defined Transparent Spots.—Some photographers wet their plates before applying the developer. If this is not thoroughly done, air bubbles will be formed on the surface, and hence cause the spots above referred to.

Another cause of similar spots is using water for the developer, which contains vegetable matter, causing it to bubble more or less while pouring it on the plate. Remedy: Use distilled water. Good well water might do.

On account of the extreme rapidity of some plates, great care should be taken that they are developed in a suitable light.

Green glass covered with one or more thicknesses of post-office paper makes a pleasant and safe light for rapid plates.

Test.—Expose one-half of a plate three minutes to your light in developing room and develop. If the part exposed is as clear as the unexposed part, your light is safe.

Irregular-shaped transparent spots are generally due to dust on the plates. To avoid, wipe out with damp sponge camera and plate-holder at least once every week. Also be sure and dust off plate before putting in holder. Don't blow it.

Blisters are generally due to too acid fixing bath; neutralize with ammonia or carb. of soda.

Streaks are due to fixing bath, when they are found to run the way the plate was dipped, bath being acid. Neutralize with ammonia. If they still continue make up new bath with hypo only.

Anaglyphs Perfected.—M. Louis Ducos du Hauron, the original inventor of the anaglyph describes in the *Revue Suisse* how he has still perfected it, so that it gives not only the idea of solidity, but also "une sensation de polychromic complete des plus agreables." This is a distinct advance to obtain colors and relief, and it is attained in the different ways, either by the use of the stereoscopic negatives, or by using three negatives, two of the latter not being taken stereoscopically, and printed one over the other, whilst the third fulfils the usual requirements of stereoptic work. By the first method, the negative for the right eye is taken through a green screen, and printed in red, madder lake; the negative for the left eye being taken through a red-orange screen, and is printed in Prussian blue, and prints being viewed through spectacles with turquoise blue and ruby red glasses, this is said to give all the colors. The second method is more complicated, and is founded on the ordinary three-color process. The two prints, negatives from which are super-imposed accurately, are taken with blue-violet and green screens, and printed with chrome yellow and madder lake, the third negative being taken through an orange-red screen, and printed in Prussian blue. The same colored spectacles are used as for the first method. This method has also been adapted to lantern projection.—*The British Journal of Photography.*

A Platinum Intensifier for strengthening gelatine negatives has lately received considerable attention from experimentalists. Unlike some other formulæ recommended and used for this purpose, this platinum intensifier does not cause the negative to fade. On the contrary, it is claimed that it not only immensely improves the printing quality of the negative, but makes the image permanent, saving to the profes-

sional photographer valuable and money-making negatives, and to the amateur negatives that he has traveled miles to secure. We expect to give the formula in a subsequent number.

Purple Transparencies.—Adolf Hertzka, in the *Photographische Mitteilungen*, gives the following method of development, which, he says, will yield constantly regular purple tones. The plate (which should be exposed about the same time as for hydroquinone) is first bathed, for about a half a minute, in the following solution: Glycin, 15 grains; carb. potash, 2 drams; bromide potassium, 8 grains; water, 8 ounces. After about half a minute, and before the image appears, about half the quantity of the following solution is added to the first: Soda sulphite, 2¼ ounces; pyro, 3½ drams; water, 12 ounces; sulphurous acid, 5 drops, when the picture appears at once with great strength and clearness. It is not recommended to mix the solutions before commencing, as in this case the result is not good. The developed positive is washed under the tap and fixed in the acid bath. The tone is purple, like a print well toned with gold, and remains regular for a series of slides.

More Prizes.—An amateur photographic contest will be held under the auspices of *Recreation*, beginning January 1, and closing March 31, open to all amateurs in the United States and in Canada. The first prize will be a camera, valued at about $75, name of maker to be announced in next issue of *Recreation*; second prize, $25 cash; third prize, $20 cash. Subjects limited to wild animals, birds, fishes, camp scenes, and to figures or groups of persons representing in a truthful manner, shooting, fishing, amateur photography, bicycling, sailing, or other outdoor sports or pastimes. Pictures illustrative of cycling especially desired. Awards to be made by three judges, none of whom shall be contestants. Conditions: Contestants must submit two mounted silver or bromide prints of each subject, which shall become the property of *Recreation*. The name and address of the sender to be plainly written on the back of each print. Daylight, flash-light, or electric light pictures admissible. Prize-winning photographs to be published in May *Recreation*, and other good ones in future numbers, full credit being given in all cases. Contestants need not be subscribers to *Recreation*, but nearly all intelligent amateurs are already such, and the few others will, of course, subscribe before the close of this contest.

Society Notes.

Photographic Society of Japan.—A regular meeting of the above mentioned society was held at the Genrokukwan, Kobiki-cho, Tokyo, on Friday, October 11th, at 5 p.m., Mr. S. Kajima, Jr., in the chair. The minutes of the last meeting having been read and approved, a paper was read by Mr. Y. Isawa, upon "Liesgang's Collodion Transfer Paper." Mr. C. D. West, M.A., showed a Hetherington camera, which he had improved by adding a "cloud-compelling" arrangement to the shutter. Many shutters have been made to give a shorter exposure to the lower part of the plate—corresponding to the upper part of the subject—than to the lower with the view of getting a better rendering of clouds, but such shutters are not suitable to subjects in which there is little or no sky. The shutter of the Hetherington camera consists mainly of a revolving disc having two circular openings, either of which can be made to pass rapidly in front of the lens, so as to give instantaneous exposure. By modifying the shape of one of the openings, the shutter is converted into one that can be used either for an equal exposure all over the plate, or so as to give the sky relatively less exposure than the foreground. Many prints, both direct and enlarged, were shown to demonstrate the advantage of the addition. Some taken at Ikao showed comparatively dark foregrounds, fully exposed, the pictures having at the same time magnificent clouds. Such effects are impossible with a single exposure with a shutter giving the same relative exposure all over the plate. The Hetherington is 5 x 4 hand camera with a changing arrangement that seems to work without a hitch at any time, and the camera is justly becoming popular in this country.

Voigtlander & Sohn, the celebrated opticians of Braunschweig, Germany, offer a series of premiums for photographs made with their celebrated lenses. The particulars of the competition are not printed. As the specimens are to be sent in by March 1, 1896, the shortness of intervening time would prevent any American competition.

Photographing the Human Voice.—At the recent meeting of the American Association, Messrs. Minckly and Hallock described a method of photographing the vocal cords in action, and at the same time a method of voice analysis, which will enable a singer to see every tone in his voice.

Journalistic.

A Journalistic Surprise.—Our heretofore staid old contemporary, the *Photographic News* of London, now at the age of forty, comes to us in an entirely new dress, looking as fresh and sprightly as a blushing maiden of sweet sixteen. The heading informs us that henceforth the *Photographic News* is to be the journal for amateur photographers, of all ages and all stages, and that too for a single penny. A glance at the initial number shows it to be full of new and interesting features, not the least among which are "Practical Points," "Notes for Beginners," and "The Consulting Room"; the latter two departments are conducted by E. J. Wall, F.R.P.S., whose name alone is a power and strength in photographic journalism. If number one of the new series be a criterion, the new venture must prove an immediate success.

In the current number, the *Boston Academy*, edited by Rev. Alfred A. Wright, in the review of books and periodicals, prints the following editorial opinion of ourselves:

AMERICAN JOURNAL OF PHOTOGRAPHY. November, 1895. Phila., Thos. H. McCollin & Co. One of the very finest of photographic journals published in this country, up to date in the technique of the art, full of delightful information for laymen as well as for professionals, and withal always ethically noble and true.

The Amateur Photographer of London, which claims to have the "largest circulation of any photographic paper in the world," announces in the initial number of the year that "all being well, the *Amateur Photographer* in the next number will appear in a new dress, type, paper, head-lines, attractions, and all; the good features of the past will be retained, while the faults,—well, they will make room for fresh departures." The *Amateur Photographer* has always been a welcome visitor to our sanctum.

The British Journal of Photography also announces that with the new year it will turn over a new leaf, in so far that it appears before its readers in a changed, and it is claimed improved aspect. Thus far the changes are only minor ones in the make-up; others, however, are promised in the near future.

Photography (London), like the AMERICAN JOURNAL OF PHOTOGRAPHY, continues on the even tenor of its way without any change in

either make-up or staff. The paper now enters on its eighth year with increasing popularity among the thousands of members owing allegiance to the various societies of the kingdom.

Photographische Rundschau.—This artistic periodical comes to us for the new year in a larger form, the size having been changed from a medium 8vo. to a crown 4to. It is still the organ of some of the leading German photographic societies, and continues under the editorial care of Charles Scolik and Dr. Neuhaus.

Snap-Shots.—Even this sprightly monthly has come to us in a new garb for the present year, the improvement being a new cover of drab and carmine.

The November number of the AMERICAN JOURNAL OF PHOTOGRAPHY contains writings by experts on the following subjects: Color (?) Photography; Recent Progress in Optics; A Photo-mechanical Process for Professional or Amateur; Photography in Commercial Advertising; The Commercial Aspects of the Half-tone Process; A Scrap of Photographic History; Bichromate Disease; Some Ways of Photographers; How He Took It; Drawing for the Half-tone Process. Besides these special articles there is a fund of information for the amateur in the regular departments. The number is illustrated throughout with beautiful specimens reproduced by the half-tone process.—*Brooklyn Standard Union.*

Judgment in Placing Advertising.—All advertising does not pay because all advertising is not placed where it can be made to pay. Business men who are shrewd to buy goods that they feel confident will sell are not equally shrewd in placing their advertising where they are going to hit the kind of people to whom they expect to sell their goods.

Popular Science News.—This periodical, formerly the *Boston Journal of Chemistry*, with the present number enters the thirtieth year of its existence. New departments on invention and electricity have been added, each one under the direction of an expert. In addition the pages have been doubled, and the appearance generally improved. It is profusely illustrated, and is free from technicalities.

Lens Catalogue.—Taylor, Taylor & Hobson's new lens catalogue, fourteenth edition, has been revised and contains for the first time the Cooke Lenses, Series III. In addition, the appendix presents a perma-

nently useful part of the list; it has been largely re-written, and particularly the parts which treat of astigmatism, depth of focus, curvature of field, and intensity or rapidity.

In Memoriam.—Washington Irving Adams, of the Scovill & Adams Company, and a well-known resident of Montclair, N. J., died suddenly from apoplexy on the evening of January 2d, at "Irvingcroft," his home, in Llewellyn road. He was in his sixty-fourth year. Mr. Adams was a resident of Montclair for the last twenty-seven years, and he was identified with the various public aud private enterprises connected with the history of the town. Mr. Adams was a direct descendant of Henry Adams, of Braintree, as was Samuel Adams, the patriot; Hannah Adams, the first authoress of this country; Adams, the inventor of the steam press; Adams, the founder of Adams Express Company, and the Adames of Presidential fame. Mr. Adams was the son of Barnabas Scureman and Elizabeth (Carhart) Adams, and he was educated in the public schools of New York. In 1858 he entered the service of the Scovill Manufacturing Company, and in 1878 he had entire charge of the business in New York. In 1875 he became president of S. Peck & Co., manufacturers of photographic apparatus, New Haven, Conn., which had previously gone under the control of the Scovill Company. In 1889 the firm became the Scovill & Adams Company, with offices in Broome Street, New York, and he was made president and treasurer of that corporation. During the Centennial year, 1876, Mr. Adams was first vice-president of the Centennial Photographic Company. He was for many years chairman of the Executive Committee of the National Photographic Association of America. When only twenty-one years old he was elected school trustee in the Ninth ward, New York City. Since early manhood he had been prominently identified with the Masonic fraternity, having served twenty-one years as secretary of Lafayette Lodge, No. 64, of New York, and two years as master. In 1893 he received an elegant master's jewel, set in diamonds, in recognition of his faithful service. In capitular Masonry he was exalted in Corinthian Chapter to R. A. M., and in the Chivalric Order he was created a Knight Templar in Morton Commandery No. 4, all of New York. He also was a member of the Society of Colonial Wars, by virtue of descent from three ancestors, entitling him to membership. He was also a member of the Huguenot Society of America. Mr. Adams removed with his family to Montclair in 1868, and settled at "Irvingcroft," a beautiful and picturesque place in Llewellyn road, on the side of the Orange Moun-

tains. He married Marion Lydia, daughter of George Briggs, of New York City, and he is survived by a widow and one son, W. T. Lincoln Adams, well known as editor of the *Photographic Times*, who succeeds his father in the management of his large business interests.

Obituary.—The death is announced of Dr. Julius Schnauss, of Jena, Germany. Throughout Continental Europe Dr. Schnauss was known as the patriarch of photography (Altvater der photographie). For almost half a century he was a busy worker and an able teacher of photographic science. He was connected with photography since 1849, and in 1855 founded at Jena the first photographic and chemical institute in Germany. He was a voluminous writer, and a member of the various scientific societies. Among his leading works are the "Dictionary of Photography" and his "Collotype" and "Photo-Lithography," both of which have been translated into English.

The death, on December 29th, 1895, of W. D. Gatchel, of Louisville, Kentucky, the senior member of the firm of W. D. Gatchel & Sons, is announced. Mr. Gatchel had been in the photo stock business for thirty-four years, and during his career had established an enviable reputation for the highest integrity, and had built up an extensive trade, into which he had infused the spirit of his own energy and upright dealing. For the past year he had, on account of failing health, entirely retired from business, leaving the management to his two sons, A. D. and F. E. Gatchel, who will conduct the business in future as it has been in the past.

Do What You Say.—Any one who has lived a few decades in this world has learned that confidence is a product of slow growth. Nowhere is confidence more necessary to success than in the advertising world, and nowhere, we sometimes think, are weaker methods adopted to inspire this confidence. It is one thing to make a statement in an advertisement, promising certain things to the public, and an entirely different matter to back up this statement by the acts and merchandise of the store. Every one will be the gainer when all learn that honesty is the best policy—certainly in advertising. It pays tenfold over to back up every statement contained in an advertisement. Advertisers who pursue this method do little growling about advertising not paying.

Penny postage for London and its suburbs dates from the year 1681.